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1. Summary

Background: Approximately 70% of the patients who receive chemotherapy suffer from fatigue, which lowers their quality of life and also has a negative influence on therapeutic efficacy. Previous studies have suggested a relationship between blood carnitine levels and fatigue. We conducted a prospective observational study to examine the relationship between carnitine pharmacokinetics and chemotherapy-induced fatigue in patients receiving cancer chemotherapy regimens that included cisplatin.

Patients and Methods: Examined eleven patients were received chemotherapy including cisplatin administration (60–80mg/m^2). We performed 24-h urine collection and took blood samples on day 1 (before the initiation of chemotherapy) and days 2, 3, 4, and 8 in order to measure the carnitine concentrations of serum and urine. These were compared with measures of self-reported fatigue. The primary endpoint was the change in self-reported fatigue subscales from baseline to day 8.

Results: Urinary carnitine concentrations differed significantly on days 2 and 3 (P = 0.003). The Functional Assessment of Chronic Illness Therapy-Fatigue scale version 4A score on day 8 indicated significantly higher levels of fatigue, as compared to day 1 (P = 0.013).

Conclusion: This study suggested that there was an association the urinary carnitine levels and self-reported fatigue.